Claims

Please cancel claims 1-4, 9-10, and 15-17, and insert the following replacement claims.

25. A method for treating or preventing dental caries comprising administering to a subject in need of such treatment a chimeric monoclonal antibody, wherein the chimeric antibody specifically binds to a cariogenic organism associated with dental caries and elicits a humoral immune response to an antigen displayed by the cariogenic organism from the subject, wherein the portion of the chimeric monoclonal antibody that binds to the cariogenic organism is derived from a species other than that of the subject in need of such treatment.

26. The method of claim 25, wherein the cariogenic organism is *Streptococcus mutans*.

27. The method of claim 25, wherein the chimeric monoclonal antibody includes a complementarity determining region of a monoclonal antibody that specifically binds to *S. mutans*.

28. The method of claim 25, wherein the chimeric monoclonal antibody includes a complementarity determining region of a monoclonal antibody produced by a hybridoma deposited with the American Type Culture Collection as ATCC No. 1) HB12559, which is designated SWLA1, 2) HB12560, which is designated SWLA2, or 3) HB12258, which is designated SWLA3.

29. The method of claim 25, wherein the variable region of the light chain of the chimeric monoclonal antibody includes an amino acid sequence of SEQ ID NO. 2.

30. The method of claim 29, wherein the amino acid sequence is encoded by a nucleic acid sequence comprising SEQ ID NO. 1.

31. The method of claim 25, wherein the variable region of the heavy chain of the chimeric monoclonal antibody includes an amino acid sequence of SEQ ID NO. 4.

32. The method of claim 31, wherein the amino acid sequence is encoded by a nucleic acid sequence comprising SEQ ID NO. 3.

33. The method of claim 25, wherein the chimeric monoclonal antibody includes a constant region of IgG antibody or IgM antibody.

34. The method of claim 25, wherein the subject in need of such treatment is a human and the chimeric monoclonal antibody includes a constant region of human IgG antibody or IgM antibody.

35. The method of claim 25, wherein the chimeric monoclonal antibody is a recombinant chimeric monoclonal antibody.

36. The method of claim 25, wherein the chimeric monoclonal antibody is produced from a transgenic plant.

37. The method of claim 25, wherein the subject in need of such treatment is a mammal.

38. The method of claim 25, wherein the subject in need of such treatment is a human, dog, or cat.

39. The method of claim 25, wherein the chimeric monoclonal antibody is administered orally.

40. A chimeric monoclonal antibody that specifically binds to a cariogenic organism and elicits a humoral immune response to an antigen displayed by the cariogenic organism in a subject that hosts the cariogenic organism, wherein the portion of the monoclonal antibody that binds to the cariogenic organism is derived from a species other than that of the subject that hosts the cariogenic organism.

41. The chimeric monoclonal antibody of claim 40, wherein the cariogenic organism is *S. mutans*.

42. The chimeric monoclonal antibody of claim 40, wherein the portion of the monoclonal antibody that binds to the cariogenic organism includes a complementarity determining region of a monoclonal antibody that specifically binds to *S. mutans*.

43. The chimeric monoclonal antibody of claim 40, wherein the portion of the monoclonal antibody that binds to the cariogenic organism includes a complementarity determining region of a monoclonal antibody produced by a hybridoma deposited with the American Type Culture Collection as ATCC No. 1) HB12559, which is designated SWLA1, 2) HB12560, which is designated SWLA2, or 3) HB12258, which is designated SWLA3.

44. The chimeric monoclonal antibody of claim 40, wherein the variable region of the light chain of the antibody includes an amino acid sequence of SEQ ID NO. 2.

45. The chimeric monoclonal antibody of claim 44, wherein the amino acid sequence is encoded by a nucleic acid sequence comprising SEQ ID NO. 1.

46. The chimeric monoclonal antibody of claim 40, wherein the variable region of the heavy chain of the antibody includes an amino acid sequence of SEQ ID NO. 4.

47. The chimeric monoclonal antibody of claim 46, wherein the amino acid sequence is encoded by a nucleic acid sequence comprising SEQ ID NO. 3.

48. The chimeric monoclonal antibody of claim 40 having a constant region of IgG antibody or IgM antibody.

49. The chimeric monoclonal antibody of claim 40, wherein the subject that hosts the cariogenic organism is a human and the chimeric monoclonal antibody includes a constant region of human IgG antibody or IgM antibody.

50. The chimeric monoclonal antibody of claim 40 as a recombinant chimeric monoclonal antibody.

51. The chimeric monoclonal antibody of claim 40 produced from a transgenic plant.

52. The chimeric monoclonal antibody of claim 40, wherein the subject that hosts the cariogenic organism is a mammal.

53. The chimeric monoclonal antibody of claim 40, wherein the subject that hosts the cariogenic organism is a human, dog, or cat.

Response

Responsive to the Restriction Requirement mailed February 13, 2003, Applicants elect, with traverse, the claims of Group I, claims 1-3 and 15-17. It is alleged in the Office Action that the claims are directed to sixteen independent and patentably distinct inventions. Although Applicants traverse the restriction requirement for the reasons set forth below, the claims of Group I, claims 1-3 and 15-17, are provisionally elected in order to be fully responsive to the Office Action.

In addition, Applicants request to replace claims 1-3 and 15-17 with claims 25-53. The replacement claims 25-53 are supported by the originally filed claims and the specification. Therefore they do not constitute new matter. Entry of the amendments is respectfully requested. Furthermore, the replacement claims are directed to the same subject matter of claims 1-3 and 15-17, thus do not require a new search and should be examined under Group I.

Traverse the Restriction Requirement

The Restriction Requirement is traversed with respect to Groups I, II, VII, and VIII, Groups III, IV, IX, and X, and Groups V, VI, XI, and XII, respectively. In each case, the claims are directed to using a monoclonal antibody specific to an antigen displayed by a cariogenic organism, which may be related to the monoclonal antibody produced by the same hybridoma deposited with the American Type Culture Collection. For example, with respect to Groups I, II, VII, and VIII the variable region of the light chain of the antibody recited in claims 3 and 9, and the variable region of the heavy chain of the antibody recited in claims 4 and 10 are all related to the monoclonal antibody produced by the hybridoma deposited with the American Type Culture Collection as ATCC No. HB12559, which is designated SWLA1.

While the claims within each group of Groups I, II, VII, and VIII are independent and patentably distinct from the claims of another group, it is submitted that the subject matter of Groups I, II, VII, and VIII is so closely related that division of the claims into separate groups would result in

duplication of effort by the U.S. Patent and Trademark Office. A search of the claims of elected Group I would include art relevant to antibodies associated with the variable region of the monoclonal antibody produced by hybridoma HB12559, designated as SWLA1, and therefore relevant to examination of the claims of Groups II, VII, and VIII. The same is applicable to Groups III, IV, IX, and X, and Groups V, VI, XI, and XII.

For the above-reasons, it is submitted that a search of the claims of Group I would, of necessity, reveal art relevant to the claims of Groups II, VII, and VIII. Accordingly, it is respectfully requested that the claims of Group I, Group II, Group VII, and Group VIII be rejoined, and that the claims of Groups II, VII, and VIII be examined together with elected Group I.

The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this application.

A check in the amount of $360.00 is enclosed in connection with the filing of this Communication. If any additional fee is required, the Commissioner is authorized to charge any fee (or credit any overpayment) to Deposit Acct. No. 07-1896.

Respectfully Submitted,

Dated: March 13, 2003

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